

2.0 SITE DESCRIPTION

The site consists of approximately 8.8 acres of undeveloped land located in the southwest portion of an active oil field. The site has been used for oil production from the 1920s to the present; the current tenant, Hathaway Company, has conducted oil production activities since the 1980s (McLaren Hart, 1994b referencing Levine-Fricke, 1991a and 1991b). Current and previous site structures include the following:

- Four active oil production wells (three along the northern property boundary [Well #s 111, 112, and 113] and one along the southern property boundary [Well #117]) are present at the site (Figure 2). Five additional oil production wells were previously abandoned (McLaren Hart, 1994b referencing Levine-Fricke, 1991b).

1

Remedial Excavation/Site Closure Report
Mobil Jalk Fee Property
October 14, 1998

- A tank battery consisting of six above-ground tanks is located in the northwest corner of the site (Figure 2).
- Eight former sumps (mud pits) associated with oil drilling and production have been observed in historic aerial photographs (Levine-Fricke, 1991b).
- From approximately 1920 to 1942, a small oil refuse area (boneyard area) used for the storage of metal objects was present in the southwest portion of the property (Figure 2) (Levine-Fricke, 1991b).
- In the late 1920s and early 1930s, above-ground storage tanks were located in the southeast portion of the property (Levine-Fricke, 1991b).

Trucking operations were performed in the central portion of the site (Figure 2; dates unknown; McLaren Hart 1996c). The northeastern portion of the site was, at one time, leased to a company that used solvents (dates, additional details not listed) (McLaren Hart, 1994b).

Adjacent properties have been developed for industrial and commercial use. The Continental Heat Treating, Inc. facility, located adjacent to the southeastern property boundary of the site, uses tetrachloroethene (PCE) for business operations. The company has been operating at this location since 1969 (McLaren Hart, 1993).

An ongoing groundwater characterization study is being conducted by the Oil Field Reclamation Project (OFRP) on approximately 272 acres of land adjacent to the site to the northeast. Area B of the OFRP project is located approximately 750 feet northeast (upgradient) of the Jalk Fee Property. The results of the OFRP study demonstrate that dissolved-phase hydrocarbons have impacted groundwater regionally with volatile organic compounds (VOCs) including benzene, PCE, and trichloroethene (TCE) and semi-volatile organic compounds (SVOCs) including phenolic compounds (McLaren Hart, 1996b).

3.0 SUMMARY OF REMEDIAL ACTIVITY

Excavation boundaries, as proposed in the RAP, were based on soil laboratory results obtained from 10 soil borings and 2 hollow stem auger borings drilled to total depths ranging

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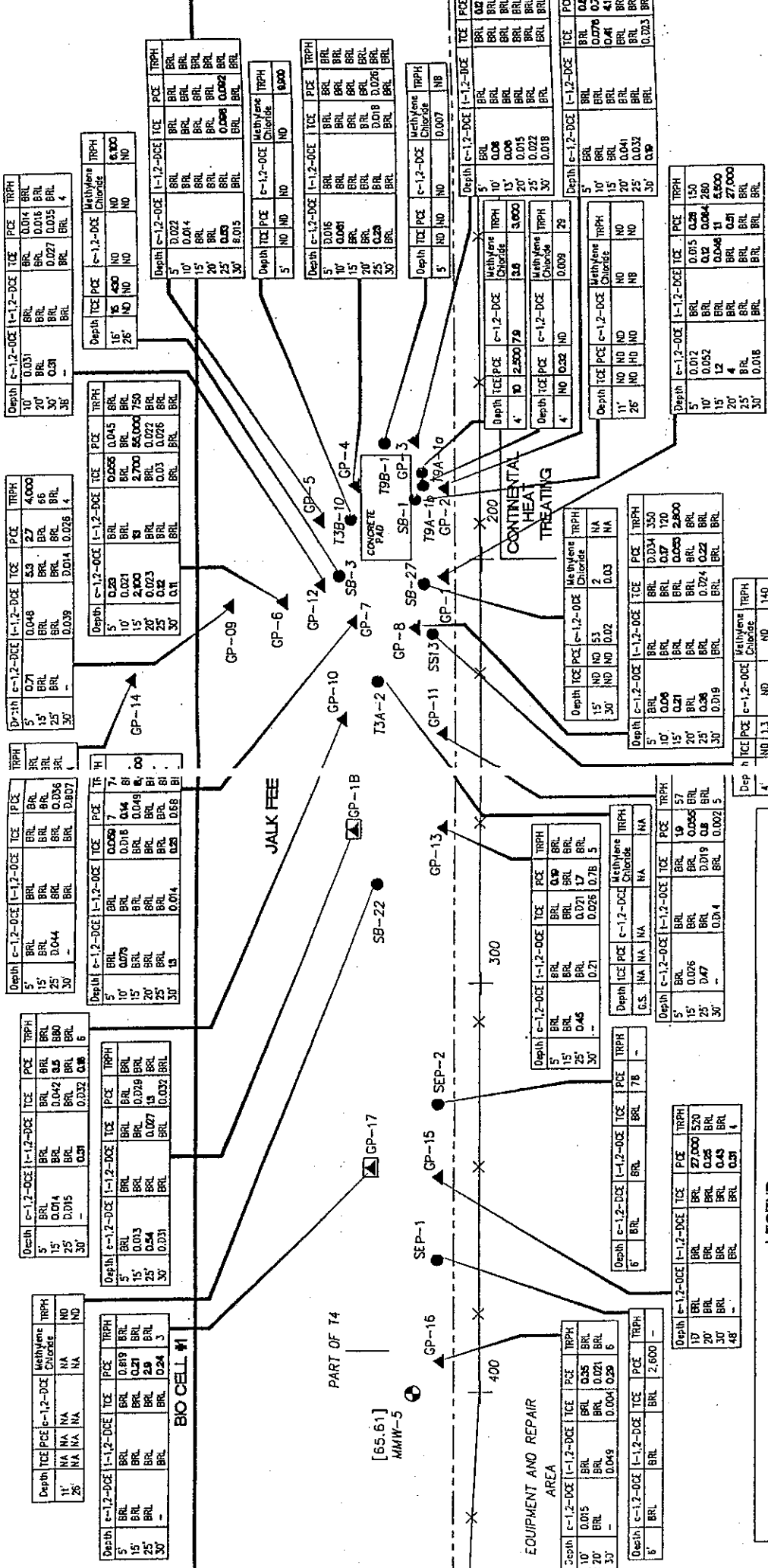
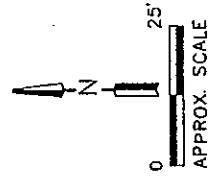
FIGURE 2
GEOPROBE LOCATIONS
MOBIL-JALK FEE LEASE
10607 NORWALK BOULEVARD
SANTA FE SPRINGS, CA

DRAWN BY: E. Ferguson
CHECKED BY: E. Ferguson
APPROVED BY: T. Bubler

DATE: 9-28-94
DATE: 10-26-94
DATE: 10-26-94

MOBIL JAL
PRL
03.060
REVISION DATE: 10-26-94

NOTE: SITE MAP ADAPTED FROM LEWNE-FRICKE (1991b).



LEGEND

--- PROPERTY LINE
T4 --- APPROXIMATE LOCATION OF EXPLORATORY TEST PIT
SB-22 ● SUD BDRING (Levine-Fricke, December 1991)
MMW-5 ● GROUNDWATER MONITOR WELL LOCATION
[65.61] DEPTH TO GROUNDWATER IN FEET
+ SURVEYED MEASURED INTERVALS (100 FDOT)
--- CHAIN LINK FENCE
GP-17 ▲ CONTINGENT GEOPROBE (McLoren/Hort, July-September 1994)
GP-14 ▲ GEOPROBE (McLoren/Hort, July-September 1994)

Well	Depth	c-1,2-DCE	1,1,2-DCE	TCE	PCE	TRPH
SB-22	5'	BRL	BRL	BRL	BRL	19
	15'	BRL	BRL	BRL	BRL	19
	30'	BRL	BRL	BRL	BRL	19
MMW-5	5'	BRL	BRL	BRL	BRL	520
	15'	BRL	BRL	BRL	BRL	520
	30'	BRL	BRL	BRL	BRL	520
GP-17	5'	BRL	BRL	BRL	BRL	0.35
	15'	BRL	BRL	BRL	BRL	0.35
	30'	BRL	BRL	BRL	BRL	0.35
GP-14	5'	BRL	BRL	BRL	BRL	0.35
	15'	BRL	BRL	BRL	BRL	0.35
	30'	BRL	BRL	BRL	BRL	0.35

Notes:
[65.61] Concentration above 1000 ppm for TRPH
DEPTH TO GROUNDWATER IN FEET
All Concentrations are Reported in parts per million (ppm).

(BRL)
GP-14

BIO CELL #1

JALK FEE

PART OF T4

(0.019)
GP-17

(0.019)
GP-16

(0.019)
GP-15

(0.019)
GP-13

(0.019)
GP-11

(0.019)
GP-10

(0.019)
GP-9

(0.019)
GP-8

(0.019)
GP-7

(0.019)
GP-6

(0.019)
GP-5

(0.019)
GP-4

(0.019)
GP-3

(0.019)
GP-2

(0.019)
GP-1

(0.019)
GP-0

(0.019)
GP-1

(0.019)
GP-2

(0.019)
GP-3

(0.019)
GP-4

(0.019)
GP-5

(0.019)
GP-6

(0.019)
GP-7

(0.019)
GP-8

(0.019)
GP-9

(0.019)
GP-10

(0.019)
GP-11

(0.019)
GP-12

(0.019)
GP-13

(0.019)
GP-14

(0.019)
GP-15

(0.019)
GP-16

(0.019)
GP-17

(0.019)
GP-18

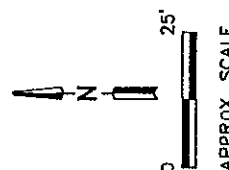
(0.019)
GP-19

(0.019)
GP-20

EQUIPMENT AND REPAIR
AREA

CONTINGENT
HEAT
TREATING

LEGEND	
---	PROPERTY LINE
T4	APPROXIMATE LOCATION OF EXPLORATORY TEST PIT
SB-22 ●	SOIL BORING (LEWHE-FRICKE, DECEMBER 1991)
MMW-5	GROUNDWATER MONITOR WELL LOCATION
(0.019)	DEPTH TO GROUNDWATER IN FEET
500 +	SURVEYED MEASURED INTERVALS (100 FOOT)
CHAIN LINK FENCE	
GP-17	CONTINGENT GEOPROBE (MCLAREN/HART, JULY-SEPTEMBER 1994)
GP-14	GEOPROBE (MCLAREN/HART, JULY-SEPTEMBER 1994)
(7B)	CONCENTRATION OF HIGHEST DETECTED SOLVENT COMPOUND
	SOLVENT PLUME CONCENTRATION > MCL X 10 BELOW REPORTING LIMITS
BRL	NOT DETECTED
ND	NOT DETECTED
Note:	All Concentrations are Reported in parts per million (ppm).



APPROX. SCALE

NOTES: SITE MAP MODIFIED FROM LEWHE-FRICKE (1991b).



18755 N. MAGNOLIA AVENUE, P.O. BOX 92714
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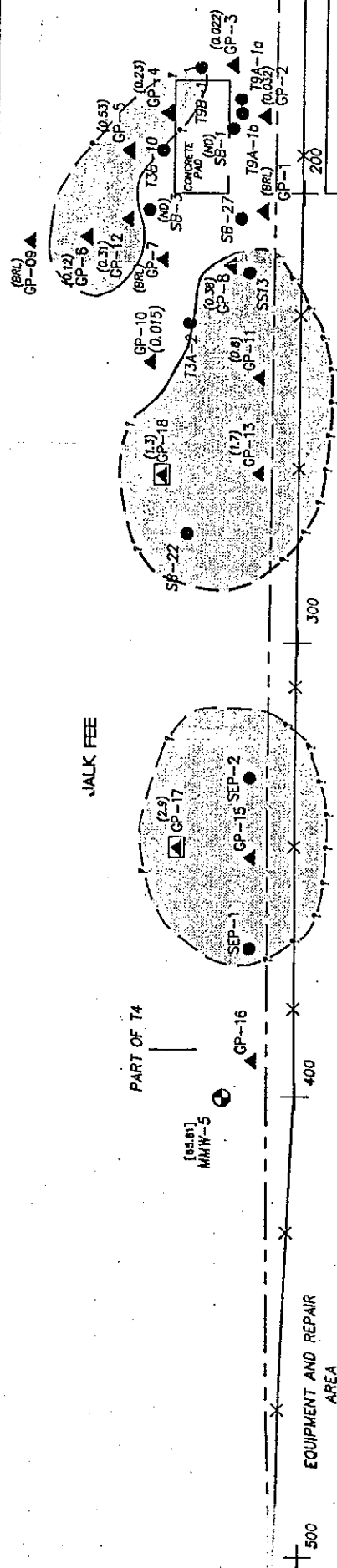
FIGURE 3

HALOGENATED VOLATILE
ORGANIC COMPOUND PLUME
JALK FEE
10607 NORWALK BOULEVARD
SANTA FE SPRINGS, CA

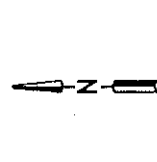
DRAWN BY: E.M.	DATE: 1-26-94	PROJECT NAME:
REVIEWED BY: V.B.	DATE: 1-26-94	MOBILE JALK FEE PCE
CHECKED BY: E. Ferguson	DATE: 10-26-94	PROJECT NUMBER:
APPROVED BY: T. Bubler	DATE: 10-26-94	03.0601382.000
		REVISION DATE: 10-26-94
		DRAWING FILE: 1
		FIG. 3

BIO CELL #1

(0.44)
GP-14



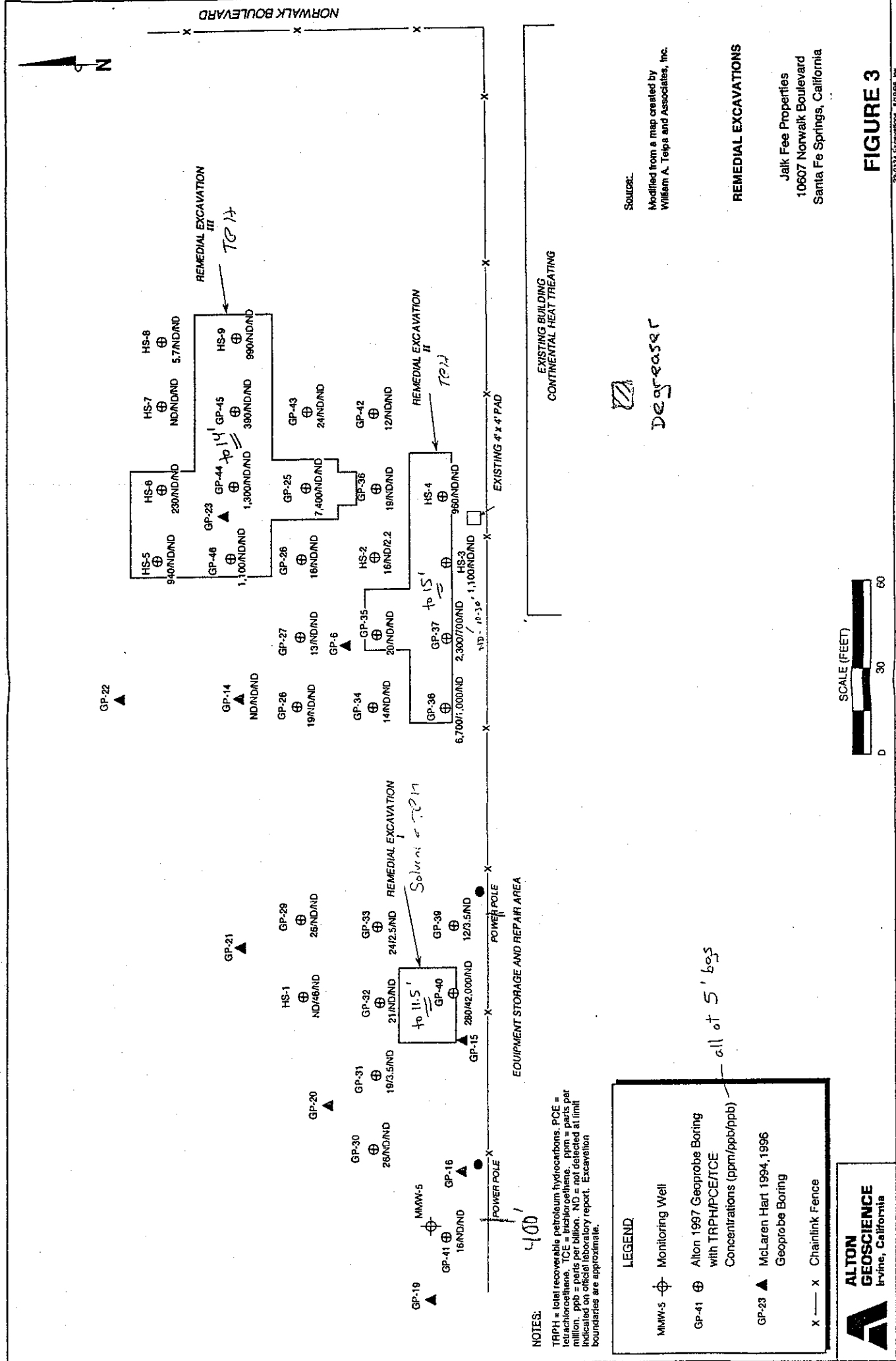
LEGEND	
---	PROPERTY LINE
T4	APPROXIMATE LOCATION OF EXPLORATORY TEST PIT
SB-22 ●	SOIL BORING (LEVINE-FRICKE, DECEMBER 1991)
MMW-5 ●	GROUNDWATER MONITOR WELL LOCATION
[ss.81]	DEPTH TO GROUNDWATER IN FEET
800+	SURVEYED MEASURED INTERVALS (100 FOOT)
---	CHAIN LINK FENCE
GP-17 ▣	CONTINGENT GEOPROBE (McLAREN/HART, JULY-SEPTEMBER 1994)
GP-14 ▲	GEOPROBE (McLAREN/HART, JULY-SEPTEMBER 1994)
(1.7)	CONCENTRATION OF HIGHEST DETECTED SOLVENT COMPOUND
○	SOLVENT PLUME CONCENTRATION > MCL X 10
BRL	BELOW REPORTING LIMITS
NO	NOT DETECTED
Note:	All Concentrations are Reported in parts per million (ppm).



APPROX. SCALE
NOTES: SITE MAP MODIFIED FROM LEVINE-FRICKE (1991b).

VOCs
25' bags

		FIGURE 7 HALOGENATED VOLATILE ORGANIC COMPOUND PLUME AT 25 FEET BELOW GROUND SURFACE MOBIL-JALK FEE LEASE 10607 NORWALK BOULEVARD SANTA FE SPRINGS, CA	
15755 VAN KLOOSTER AVENUE, IRVINE, CA 92714 TEL: (714) 261-2507 FAX: (714) 755-8460	DATE: 10-25-94	DATE: 10-25-94	DATE: 10-25-94
PROJECT NO. 03.0601382.00	PROJECT NAME: MOBIL JALK FEE PC	PROJECT NO. 03.0601382.00	PROJECT NAME: MOBIL JALK FEE PC
DESIGNED BY: E. FERGUSON	DATE: 10-25-94	APPROVED BY: T. Bubler	DATE: 10-25-94
REVISION DATE: 10-25-94	REVISION DATE: 10-25-94	REVISION DATE: 10-25-94	REVISION DATE: 10-25-94
FIG. 7	FIG. 7	FIG. 7	FIG. 7





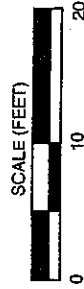
LEGEND

EX1-1-5.5 ● Soil Sample with
ND/ND/ND TRPH/PCE/TCE
Concentrations
(ppm/ppb/ppb)

GP-40 ⊕ Alton 1997 Geoprobe
Boring

GP-15 ▲ McLaren Hart 1994, 1996
Geoprobe Boring

x — x Chainlink Fence



NOTES:

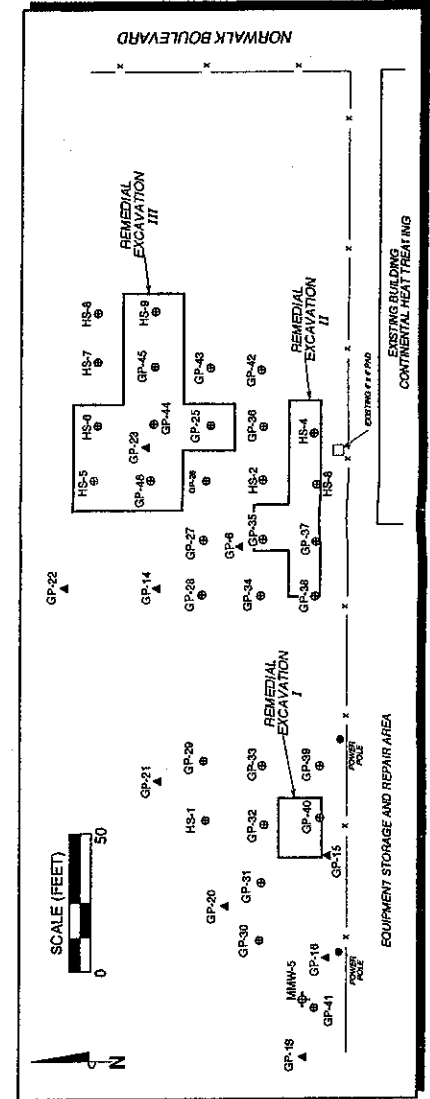
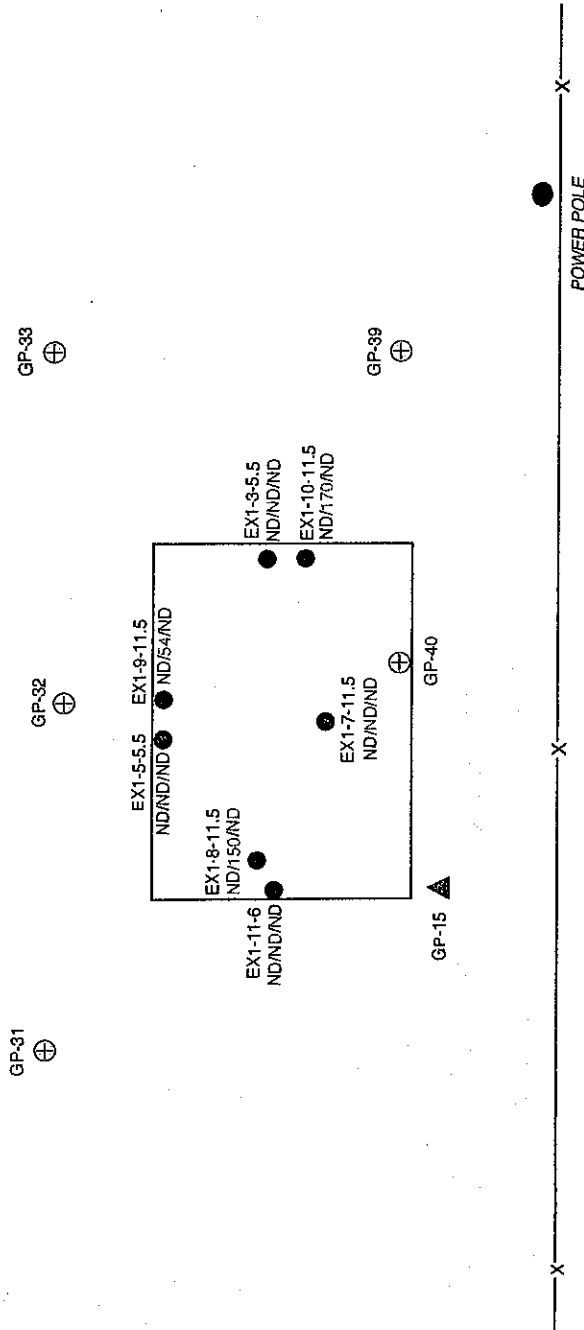
TRPH = total recoverable petroleum hydrocarbons, PCE = tetrachloroethylene, TCE = trichloroethylene, ND = not detected, ppm = parts per million, ppb = parts per billion. ND = not detected as indicated on official laboratory report. Soil Sample designations consist of the following information:
Excavation number-Number of sample collected-Sample collection depth, Sample locations are approximate.

SOIL SAMPLING IN
EXCAVATION I

Jaik Fee Properties
10607 Norwalk Boulevard
Santa Fe Springs, California

FIGURE 4

28-0134 Excavations 8/1996 JW





LEGEND

- EX2-1-5.5 ● Soil Sample with TRPH/PCE/TCE Concentrations (ppm/ppb/ppb)
- GP-38 ⊕ Alton 1997 Geoprobe Boring
- GP-6 ▲ McLaren Hart 1994, 1996 Geoprobe Boring
- x — x Chainlink Fence



NOTES:

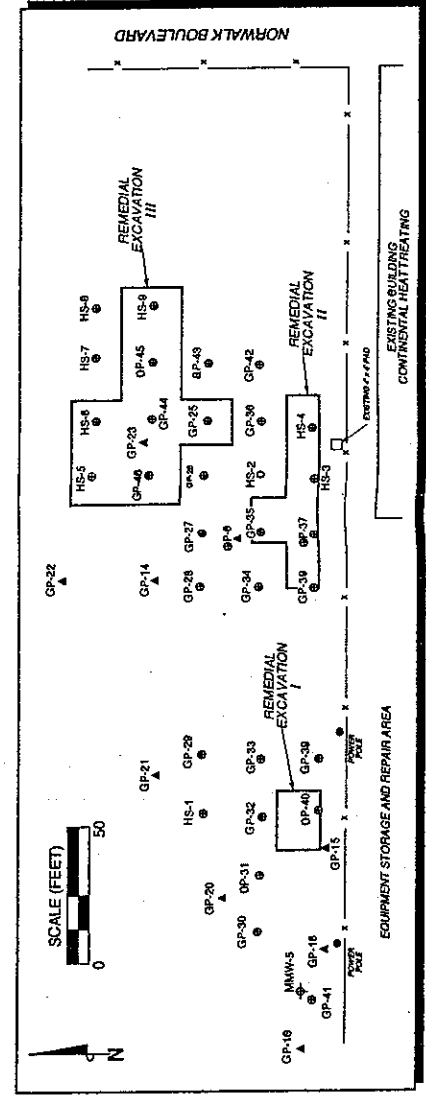
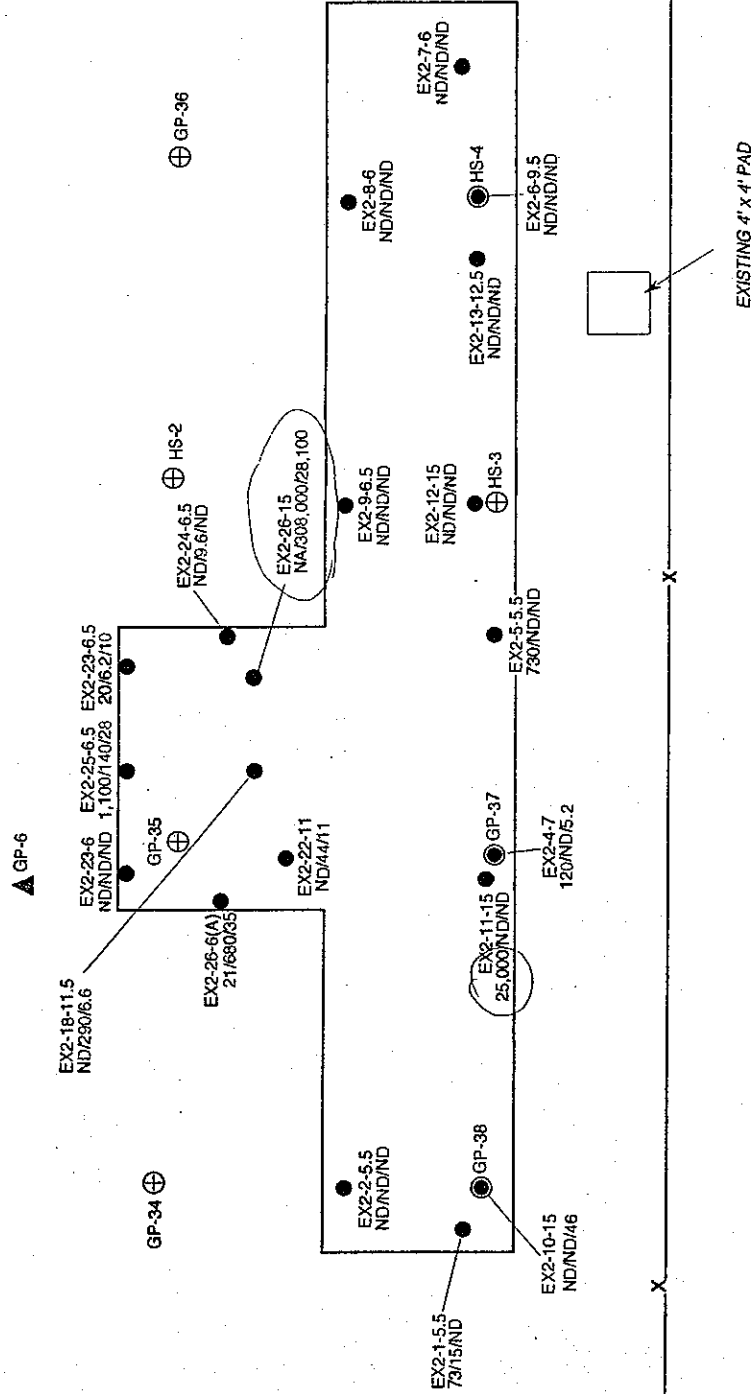
TRPH = total recoverable petroleum hydrocarbons. PCE = tetrachloroethene. TCE = trichloroethene. ppm = parts per million. ppb = parts per billion. ND = not detected at limit indicated on official laboratory report. Soil sample designations consist of the following information:
Excavation: Number of sample collection
Sample collection depth. Sample locations are approximate.

SOIL SAMPLING IN EXCAVATION II

Jak Fee Properties
10607 Norwalk Boulevard
Santa Fe Springs, California

FIGURE 5

23-0134 Excavations 8/19/98 JFM



ALTON GEOSCIENCE
Irvine, California



4.0 FINDINGS

4.1 Excavation I

The maximum concentration of PCE detected at the lateral (north, east and west) and vertical limits of the excavation was 170 parts per billion ([ppb]; Sample EX1-10). No concentrations of TRPH or TCE were detected in any of the samples collected from Excavation I. Due to the presence of active utility lines, no samples were collected from the southern sidewall of the excavation (Figure 4). This excavation was completed as proposed and generated approximately 300 tons of soil.

4.2 Excavation II

Sample No. 26

The maximum concentrations of PCE and TCE were detected in Sample EX2-26 collected approximately 15 fbg (308,000 and 28,100 ppb, respectively). The maximum concentration of TRPH was detected in Sample EX2-11 collected approximately 15 fbg (25,000 parts per million [ppm]). The maximum concentrations of PCE and TCE detected in a sidewall sample representing the lateral limits of the excavation were detected in Sample EX2-26(A) at approximately 6 fbg (680 and 35 ppb, respectively). The maximum concentration of TRPH in a sidewall sample was detected in Sample EX2-25 at approximately 6.5 fbg (1,100 ppm). However, the maximum concentration of TRPH concentration in two samples collected within 10 feet to the east and west of EX2-25 at a similar depth was 20 ppm. Sample EX2-25 was the only sidewall sample with detectable TRPH concentrations greater than 100 ppm (Figure 5). No soil samples were collected from the southern sidewall due to the presence of active subsurface utility lines.

Excavation II was extended to the north approximately 15 feet beyond the proposed excavation boundary in the vicinity of Soil Boring GP-35 (Figure 5). Additional excavation was required to remove accessible, near-surface impacted soil identified through field screening with a mobile laboratory. The proposed and additional excavation generated approximately 975 tons of soil.

4.3 Excavation III

The maximum concentration of TRPH in an excavation sidewall was detected in Sample EX3-29, approximately 6 fbg (3,600 ppm). The maximum concentration of TRPH from the base of the excavation was detected in EX3-34, approximately 14 fbg (4,400 ppm). With the exception of the southern portion of the excavation, concentrations of TRPH greater than 85 ppm were not detected in sidewall samples (Figure 6). The southern boundary of the excavation was extended approximately 7 feet to the south to remove additional accessible

Remedial Excavation/Site Closure Report

Mobil Jalk Fee Property

October 14, 1998

TRPH-affected soil. The lateral boundary of Excavation III was not extended further to the south due to the uncovering of a 3-inch diameter steel conduit of unknown origin approximately 3 fbg, running east to west. The proposed and additional excavation generated approximately 1,350 tons of soil.

4.4 Discussion of Remedial Progress from Excavation Activities

Accessible concentrations of TRPH greater than 1,000 ppm were removed from all portions of Excavations I, II and III, with the exception of a limited area along the southern sidewall of Excavation III (EX3-29). Concentrations of TRPH in excess of 1,000 ppm, detected along the southern sidewall of Excavation III, are within 6 feet of Boring GP-36 with a TRPH concentration of 19 ppm detected approximately 5 fbg. Additionally, soil sample results from Borings GP-42 and HS-2 indicate that the lateral extent of TRPH concentrations greater than 1,000 ppm is limited in the vicinity of the southern extent of Excavation III. Refer to Figures 7 and 8 for TRPH isoconcentration maps generated from data collected in June and July 1997 with overlays of remedial excavation boundaries.

The maximum concentrations of PCE and TCE detected during excavation activities were in sample EX2-26 collected from Excavation II, approximately 15 fbg. The maximum concentration of PCE detected in five additional samples from Excavation II collected at depths ranging from 11.5 to 15 fbg was 290 ppb, indicating the lateral distribution of elevated concentrations of chlorinated solvents is limited at these depths. The maximum concentration of PCE detected in sidewall samples collected up to 6.5 fbg was 680 ppb, indicating that the concentrations observed in EX2-26 are not characteristic of the near-surface (<10 fbg) soil condition. Additionally, during site assessment activities in June and July 1997, analysis of soil samples from borings GP-35 and HS-2, each located laterally less than 16 feet from sample EX2-26, showed the maximum concentration of PCE in samples at 15 fbg and lower to be no greater than 990 ppb. Refer to Appendix D for a summary of analytical data collected during the June and July 1997 site assessment activities.

Concentrations of PCE and TCE detected in EX2-26 were greater than from any of the 22 Geoprobe-type borings or 9 hollow stem auger borings completed in the same general vicinity during site assessment activities in 1997. Based on laboratory results of soil samples collected during remedial activity and previous site assessment activities, it appears that the PCE and TCE concentrations as detected in EX2-26 are not laterally or vertically continuous nor representative of residual bulk soil solvent concentrations present in the vicinity of their collection.

Remedial Excavation/Site Closure Report

Mobil Jalk Fee Property

October 14, 1998

5.0 CONCLUSIONS AND REQUEST FOR SOIL CLOSURE

Remedial activity resulted in a reduction of accessible, near-surface TRPH- and chlorinated solvent-affected soil. Proposed excavation limits were extended vertically and laterally based on field observations. In cases where the lateral extension of excavation boundaries was not feasible due to spatial constraints or other limiting factors (e.g. subsurface lines), historic data from soil boring activities provided lateral and vertical delineation in those directions and justification to suspend further excavation.

The removal of approximately 2,600 tons of TRPH- and chlorinated solvent-affected soil reduced potential exposure pathways likely to be encountered during and after site development activity. Additionally, fate and transport modeling presented in the Alton Geoscience Site Assessment Report/Remedial Action Plan previously demonstrated that residual chlorinated solvent and crude oil concentrations presented an insignificant threat to groundwater. Remedial activity reduced the volume of potential leachable chlorinated solvent- and crude oil-affected soil, further reducing the threat to near surface groundwater. Additionally, anticipated site development activities are not expected to contribute to TRPH and/or chlorinated solvent concentrations in soil.

Monitoring and sampling of the three onsite groundwater wells will be performed semi-annually. Additionally, Mobil will continue to be a participating member of the North Central Basin Regional Groundwater Group, under the direction of Mr. Keith Elliot of the LARWQCB, and assist in efforts to further characterize regional chlorinated solvent impact on near-surface groundwater in the Santa Fe Springs vicinity.

In combination with the qualitative risk assessment presented in the RAP, remedial activity has been successful in removing residual near-surface crude oil and chlorinated solvent concentrations and eliminating potential exposure pathways associated with current and anticipated future site use. Alton Geoscience respectfully submits this site for soil closure.